5mm (T1 ³/₄) Package Discrete LED RED/GREEN, Bi-Color



5BC-3-CA-X

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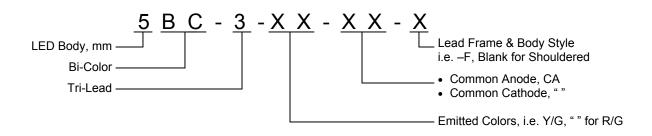
- Industry Standard 5mm (T1 <sup>3</sup>/<sub>4</sub>) Package
- RoHS Compliant
- White Diffused Lens
- Available in Flange (F) and Shouldered (Blank) Lead Frame styles
- 3-Lead Bi-Color LED
- Ideal for Status Indication and Display



Bivar 5mm T1 <sup>3</sup>/<sub>4</sub> Package Tri-Color LED is ideal for those applications where multiple signals need to be displayed at the same location such as standby-on indication for server or computer peripherals. When needed, the 3rd color signal could be created by powering up both chips together for on-off-standy applications that require three distinct signals. Bivar offers white diffused LED lens for uniform light output. The Flange LED is ideal for Panel Mount Clip & Ring assemblies and the Shouldered Lead frame LED has a built in strain relief feature which is ideal for Right Angle Holder assemblies that require lead bends. This 3-Lead Bi-Color LED package comes in a common anode Lead Frame configuration.

| Part Number | Material  | Emitted Color | Peak. Wavelength<br>λp(nm) TYP. | Lens Appearance | Viewing Angle |  |
|-------------|-----------|---------------|---------------------------------|-----------------|---------------|--|
| 5BC-3-CA-F  | GaAsP/GaP | RED           | 625nm                           |                 | 40°           |  |
|             | GaP/GaP   | GREEN         | 568nm                           | White Diffused  |               |  |
| 5BC-3-CA    | GaAsP/GaP | RED           | 625nm                           | White Diffused  |               |  |
|             | GaP/GaP   | GREEN         | 568nm                           |                 |               |  |

## **Part Number Designation**

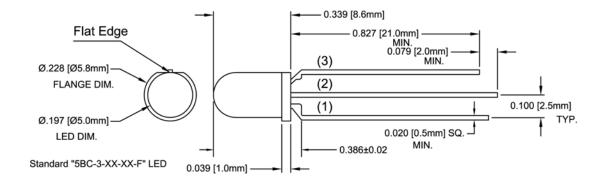


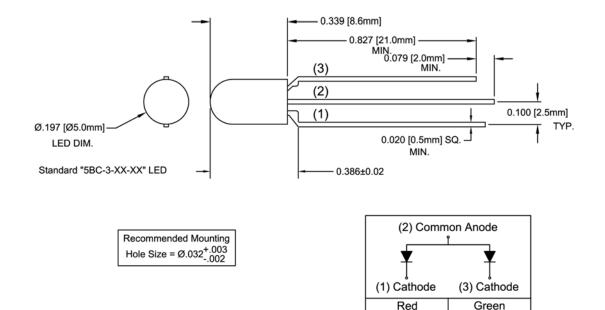


# 5mm (T1 <sup>3</sup>⁄<sub>4</sub>) Package Discrete LED RED/GREEN, Bi-Color



## **Outline Dimensions**





- Outline Drawings Notes:

   1. All dimensions are in inches [millimeters].

   2. Standard tolerance: ±0.010" unless otherwise noted.

   3. Tolerance of overall epoxy outline: ±0.020" unless otherwise noted.

   4. Epoxy meniscus may extend to 0.060" max.



## **Absolute Maximum Ratings**

 $T_A = 25^{\circ}C$  unless otherwise noted

| Power Dissipation                                                                | 80 mW        |
|----------------------------------------------------------------------------------|--------------|
| Forward Current ( DC )                                                           | 30 mA        |
| Peak Forward Current <sup>1</sup>                                                | 150 mA       |
| Operating Temperature Range                                                      | -25 ~ +85°C  |
| Storage Temperature Range                                                        | -30 ~ +100°C |
| Lead Soldering Temperature ( 3 mm from the base of the epoxy bulb ) <sup>2</sup> | 260°C        |

Notes: 1. 10% Duty Cycle, Pulse Width  $\leq$  0.1 msec. 2. Solder time less than 5 seconds at temperature extreme.

## **Electrical / Optical Characteristics**

 $T_A = 25^{\circ}C \& I_F = 20 \text{ mA}$  unless otherwise noted

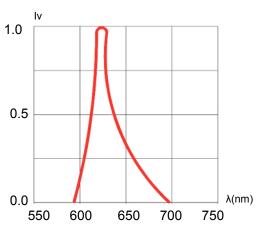
| Part<br>Number | Emitted<br>Color | Forward<br>Voltage (V) <sup>1</sup> |     | Recommend<br>Forward<br>Current (mA) |     | Reverse<br>Current<br>(µA) | Dominant<br>Wavelength (nm) <sup>2</sup> |     | Luminous<br>Intensity Iv<br>(mcd) |     |     | Viewing<br>Angle<br>2 O <sup>1</sup> / <sub>2</sub><br>(deg) |     |     |     |
|----------------|------------------|-------------------------------------|-----|--------------------------------------|-----|----------------------------|------------------------------------------|-----|-----------------------------------|-----|-----|--------------------------------------------------------------|-----|-----|-----|
|                |                  | MIN                                 | TYP | MAX                                  | MIN | TYP                        | MAX                                      | MAX | MIN                               | TYP | MAX | MIN                                                          | TYP | MAX | TYP |
| 5BC-3-<br>CA-F | Red              | /                                   | 2.0 | 2.8                                  | /   | 20                         | /                                        | 100 | /                                 | /   | /   | /                                                            | 4   | /   | 40  |
|                | Green            | /                                   | 2.1 | 2.8                                  |     |                            |                                          |     | /                                 | /   | /   | /                                                            | 6   | /   |     |
| 5BC-3-<br>CA   | Red              | /                                   | 2.0 | 2.8                                  | /   | 20                         | /                                        | 100 | /                                 | /   | /   | /                                                            | 4   | /   | 40  |
|                | Green            | /                                   | 2.1 | 2.8                                  |     |                            |                                          |     | /                                 | /   | /   | /                                                            | 6   | /   |     |

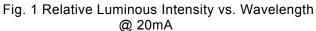
Notes: 1. Tolerance of forward voltage : ±0.05V. 2. Tolerance of dominant wavelength : ±1.0nm.



# **Typical Electrical / Optical Characteristics - Red**

 $T_A = 25^{\circ}C$  unless otherwise noted





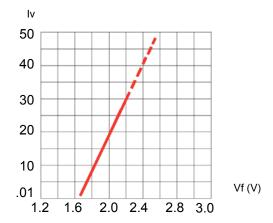
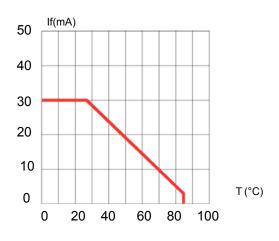
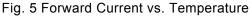
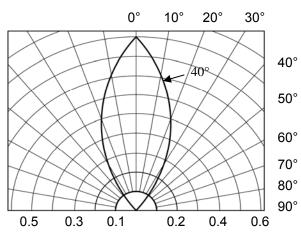


Fig. 3 Relative Intensity (10mA) vs. Forward Voltage









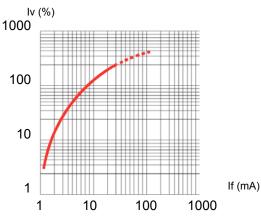
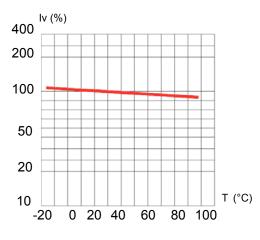
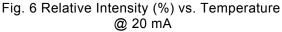


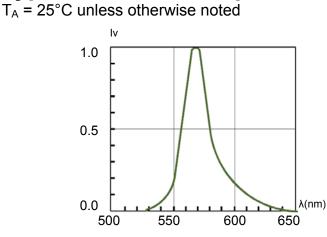
Fig. 4 Relative Luminous Intensity (%) vs. Forward Current

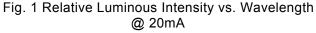






# **Typical Electrical / Optical Characteristics - Green**





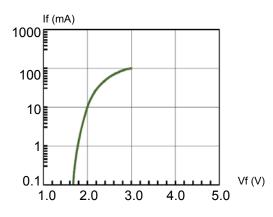
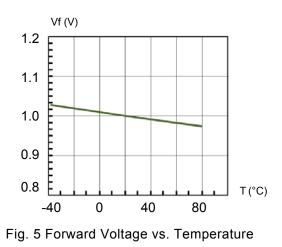
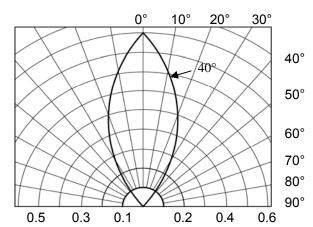


Fig. 3 Forward Current vs. Forward Voltage







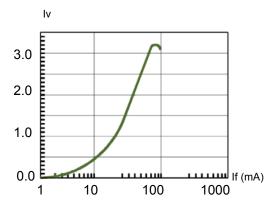


Fig. 4 Relative Luminous Intensity vs. Forward Current Normalize @ 20 mA

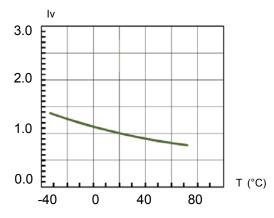
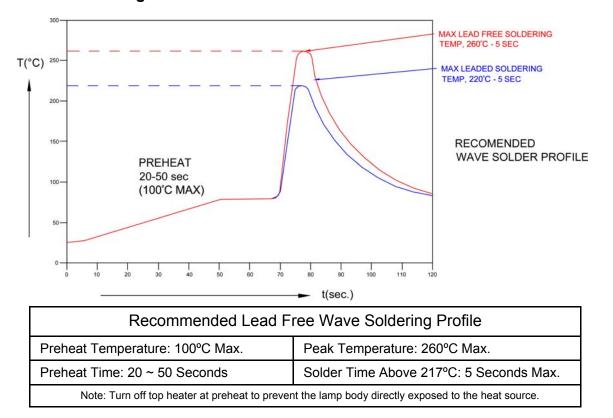


Fig. 6 Relative Luminous Intensity vs. Temperature

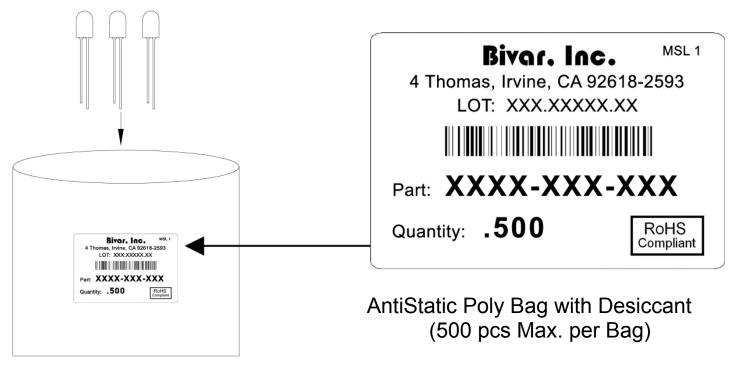
# 5mm (T1 <sup>3</sup>⁄<sub>4</sub>) Package Discrete LED RED/GREEN, Bi-Color



#### **Recommended Soldering Conditions**



#### Packaging and Labeling Plan



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